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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/662,683  | 09/15/2003  | Melvin E. Wolfe JR.  | 28076/SV1094        | 9788             |
| 4743  | 7590        | 03/27/2006           | EXAMINER            |                  |
| MARSHALL, GERSTEIN & BORUN LLP<br>233 S. WACKER DRIVE, SUITE 6300<br>SEARS TOWER<br>CHICAGO, IL 60606 |             |                      | PHAN, THIEM D       |                  |
|   |             | ART UNIT             | PAPER NUMBER        |                  |
|   |             | 3729                 |                     |                  |

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/662,683             | WOLFE ET AL.        |  |
|                              | Examiner<br>Tim Phan   | Art Unit<br>3729    |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 26 January 2006.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 11-19 and 33-43 is/are pending in the application.
- 4a) Of the above claim(s) 33-43 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 11-19 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

1. The amendment filed on 1/26/06 has been fully considered and made of record.

### ***Election/Restrictions***

2. Since Applicants' Amendment has added new claims 33-43 that are directed to the inventions that are independent or distinct from the invention originally claimed, which then necessitates a Restriction Requirement in this Office action.

Restriction to one of the following inventions is required under 35 U. S. C. 121:

- I. Claims 11-19, drawn to a method of making an electric motor, classified in class 29, subclass 596;
- II. Claims 33-42, drawn to another method of making an electric motor, classified in class 29, subclass 868;
- III. Claim 43, drawn to an alternative method of making an electric motor, classified in class 29, subclass 605.

The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require

the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the method of making an electric motor as recited in Group II does not require a wiring board disposed on the stator, as required by Group I. The subcombination, Invention I, has separate utility such as terminating the first magnet wire at the switch.

Inventions II and III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the method of making an electric motor as recited in Group II does not require an armature, as required by Group III. The subcombination, Invention III, has separate utility such as exciting the first coil to rotate the armature.

Inventions I and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination III has separate utility such as exciting the first coil to rotate the armature. See MPEP § 806.05(d).

3. Since applicants have received an action on the merits for the originally presented invention (Claims 11-19), this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 33-43 are withdrawn from consideration as being directed to non-elected inventions. See 37 CFR 1.142(b) and MPEP § 821.03.

Applicants are required to cancel these nonelected claims (33-43) or take other appropriate action.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 11-13 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sunaga et al (US 6,737,770 B2) in view of Matsuoka et al (US 5,880,666) or vice versa.

**As applied to claim 11,** Sunaga et al teach a process of making brushless motor, comprising:

- winding a first magnet wire of a coil (Fig. 1, 7) connecting to a first lug or terminal (Fig. 1, 48, col. 4, lines 57-59) in a winding board (Fig. 1, 40) and a first protrusion (Fig. 1, 5) in a stator (Fig. 1, 2), the winding board (Fig. 1, 40) being disposed on the stator (Fig. 1,

- 2) and including a switch (Fig. 1, 41) having at least an internal terminal, and a fuse (Fig. 7A, 60) having an input terminal and an exit terminal;
- terminating the first magnet wire connection at the switch (Fig. 1, 41; col. 4, lines 26 & 27) for changing the current direction to the coils.

Matsuoka et al teach a process of mounting fuse with press-connecting terminals and wire cutter at any intermediate portion of the circuit (Col. 1, line 41), comprising:

- laying a first wire (Fig. 3, 16) connection to an exit terminal and an input terminal (Fig. 3, 4 & 50 on a fuse (Fig. 3, 10);
- severing the first wire (Fig. 4, 16) between the input terminal and the exit terminal on the fuse.

It would have been obvious to one of ordinary skill in the art to combine the two teachings by applying the process of wire connection with fuse, as taught by Matsuoka et al, to the process of making brushless motor by Sunaga et al, in order to mount any or further fuse protection at any intermediate portion of the circuit.

**As applied to claim 12,** Sunaga et al and Matsuoka et al teach a process of connecting wire to fuse, which reads on applicants' claimed invention, including the well known clipping of a fuse to a board (Col. 1, lines 16-18) by Sunaga et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a clipping step to any loose wire for better connection and handling.

**As applied to claim 13,** Sunaga et al teach several switches (Figs. 1 & 6, 41) mounted on the printed wiring board (Fig. 1, 40) for changing directions of the drive current applied to the exciting coil (Fig. 1, 7, col. 4, lines 26-29).

I would be obvious to one of ordinary skill in the art at the time the invention was made to realize that a switch (Fig. 8A, 41; col. 4, lines 25-28) that changes current drive directions, even for single pole switch, must have internal and external terminals with blocks or connecting pads/posts, which connect to the magnet coil.

**As applied to claim 16,** Sunaga et al teach the winding the first magnet wire of the coil (Fig. 1, left 7) about the first lug or terminal (Fig. 1, 41; col. 4, lines 57-59) in the winding board and the first protrusion or core (Fig. 1, left 5) in the stator (Fig. 1, 2) to form one of the two poles (Col. 3, lines 6-8).

**As applied to claim 17,** Sunaga et al teach the winding the second magnet wire of the coil (Fig. 1, right 7) about the second lug or terminal (Fig. 1, 41; col. 4, lines 57-59) in the winding board and the second protrusion or core (Fig. 1, right 5) in the stator (Fig. 1, 2) to form the other of the two poles (Col. 3, lines 6-8).

**As applied to claim 18,** Sunaga et al teach several switches (Fig. 1 & 6, 41) mounted on the printed wiring board (Fig. 1, 40) for changing directions of the drive current applied to the exciting coil (Fig. 1, 7, col. 4, lines 26-29).

It would be obvious to one of ordinary skill in the art at the time the invention was made to realize that a switch that changes current drive directions, even for single pole switch, must have internal and external terminals with blocks, which connect to the magnet coil.

6. Claims 14, 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sunaga et al in view of Matsuoka et al and further view of Lewchenko et al (US 6,058,595).

**As applied to claims 14, 15 and 19,** Sunaga et al and Matsuoka et al teach a process of connecting wire with fuse, including the electrical connection of the magnetic coil to the terminals (Sunaga et al; Col. 4, lines 57-59) and the connection by welding process (Sunaga et al; Abstract), which reads on applicants' claimed invention.

Lewchenko et al teach a method of manufacturing an armature with the hooks or tang terminals where the magnet wires are connected (Col. 1, lines 38-40), which is old art.

It would be obvious to one of ordinary skill in the art at the time the invention was made to combine the three teachings by applying the terminal tangs, as taught by Lewchenko et al, as connecting point to the magnet wire of the coil and soldering or welding it in order to have good contact.

***Response to Arguments***

7. Applicants' arguments filed 1/26/06 have been fully considered but they are not persuasive for the following reasons:

Applicants urge that "Sunaga et al fail to disclose terminating the first magnet wire at a switch" and "the first magnet wire of the coil 7 of Sunaga et al terminates at terminal pins 48 mounted to a printed wiring board 40, not a switch" (Remarks; page 7/9, 3<sup>rd</sup> paragraph; page 8/9, 4<sup>th</sup> paragr.). Indeed, Sunaga et al do teach the first magnet wire terminating to a switch as Sunaga et al teach the switches and magnet wire's direct and low impedance connection or coupling by disclosing that the switches (Fig. 1 & 6, 41) are mounted on the printed wiring board (Fig. 1, 40) for changing directions of the drive current applied to the exciting magnetic coil (Fig. 1, 7, col. 4, lines 26-29) and it is well known that the conductive tracks on the PCB are nothing more than an extension of the switches as the impedance of theses tracks are almost zero. Technically in a circuit board where an electronic device is coupled or terminated to another one, rarely are these devices piggy-backed to or directly/structurally touching each other rather they are coupled or terminated to each other through conductive tracks on the PCB due to crowded components on a miniaturized circuit board.

Applicants assert that there is no motivation to combine Sunaga et al with Matsuoka et al to use the fuse in the construction of a new electric motor (Remarks; page 8, 2<sup>nd</sup> & 3<sup>rd</sup> paragr.). In response to applicants' argument that there is no suggestion to combine the two references, the examiner recognizes that obviousness can only be established by combining or modifying the

teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Sunaga et al teach a process of making brushless motor with a fuse (Fig. 7A, 60) having an input terminal and an exit terminal while Matsuoka et al teach a process of mounting fuse with press-connecting terminals and wire cutter at any intermediate portion of the circuit (Figs. 3 & 4; Col. 1, line 41). Therefore, it would have been obvious to one of ordinary skill in the art to combine the two teachings by applying the process of wire connection with fuse, as taught by Matsuoka et al, to the process of making brushless motor by Sunaga et al, in order to mount any or further fuse protection at any intermediate portion of the circuit.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

**THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tim Phan whose telephone number is 571-272-4568. The examiner can normally be reached on M - F, 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tim Phan  
Examiner  
Art Unit 3729  
tp  
March 21, 2006



A. DEXTER TUGBANG  
PRIMARY EXAMINER